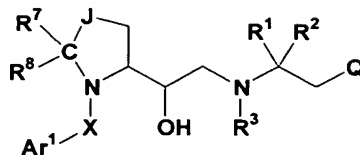


**WHAT IS CLAIMED IS:**

1. A compound of the formula I



I

wherein

Ar<sup>1</sup> is a substituted or unsubstituted aryl or substituted or unsubstituted heteroaryl;

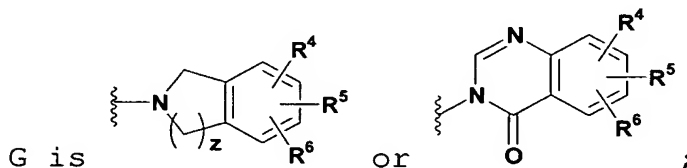
10 X is a linking group selected from alkylene, CO, alkyleneCO, OCO, alkyleneOCO, SO<sub>2</sub> and alkyleneSO<sub>2</sub>;

J is a linking group selected from S, SO and SO<sub>2</sub>;

15 R<sup>1</sup> and R<sup>2</sup> are each independently substituted or unsubstituted C<sub>1</sub>-C<sub>4</sub> alkyl, or R<sup>1</sup> can be cyclized with R<sup>2</sup> to form (-CH<sub>2</sub>-)<sub>m</sub> where m is an integer from 2 to 5;

R<sup>3</sup> is hydrogen(H) or alkyl;

Q is Ar<sup>1</sup> or G;



z is 1 or 2;

20 R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are each independently selected from hydrogen(H), halo, haloalkyl, alkyl, alkoxy, haloalkoxy, hydroxy, cyano, nitro, amino, alkylamino and alkylthio;

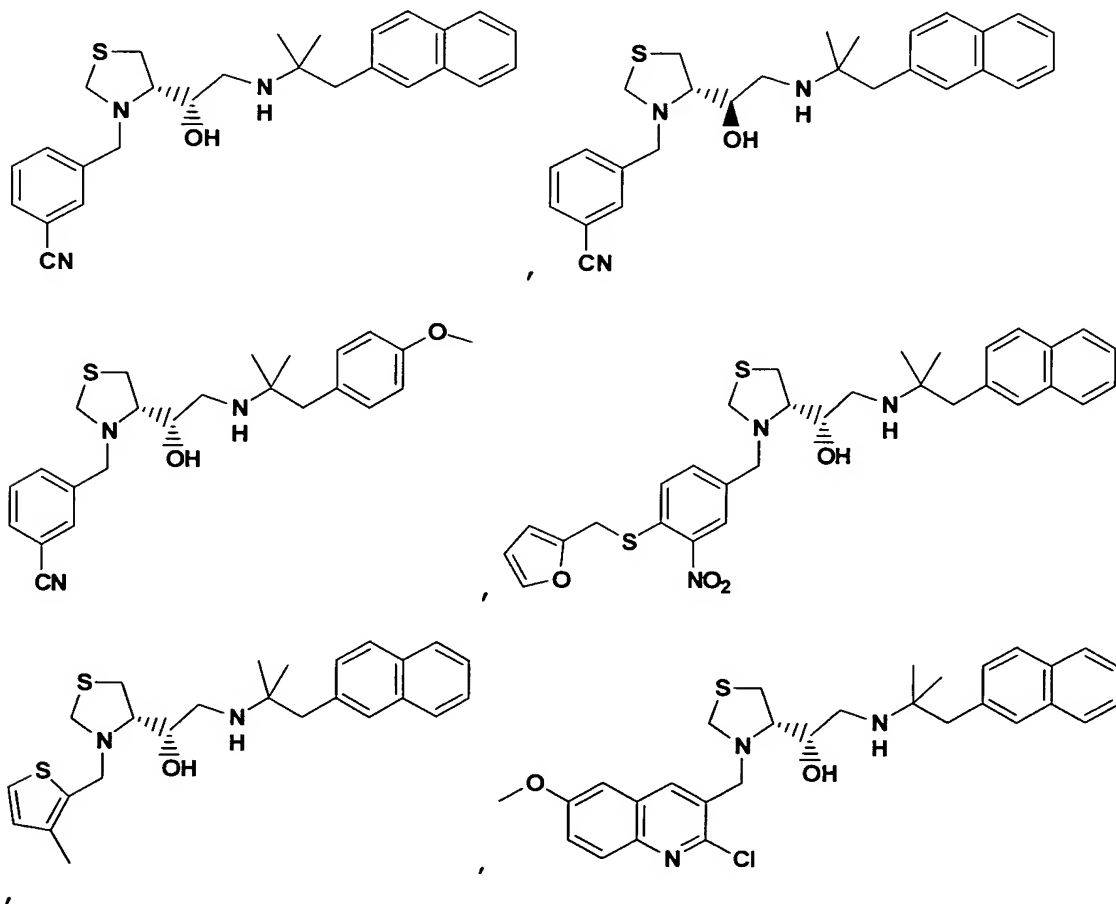
R<sup>7</sup> and R<sup>8</sup> are each independently selected from hydrogen(H), alkyl, aryl and heteroaryl;

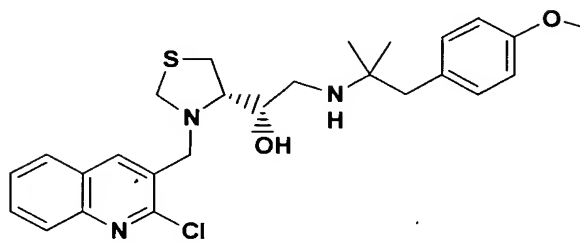
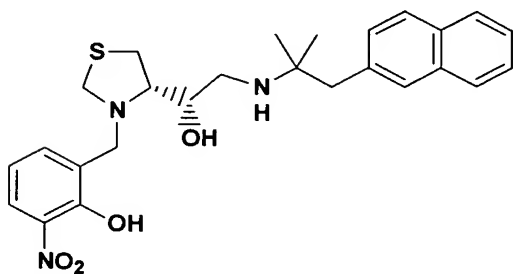
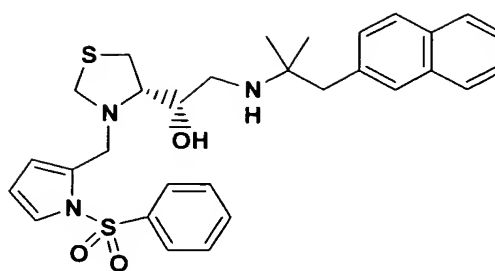
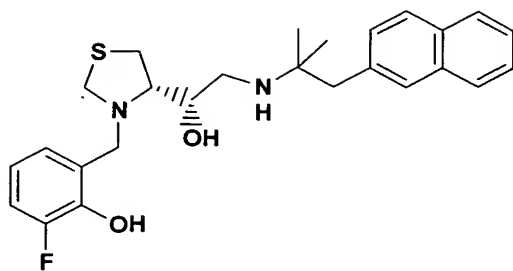
25 including all prodrug esters, pharmaceutically acceptable salts or stereoisomers thereof.

2. The compound as defined in claim 1 wherein  
 X is alkylene;  
 J is sulfur(S);  
 R<sup>1</sup> and R<sup>2</sup> are methyl, or R<sup>1</sup> is cyclized with R<sup>2</sup> to  
 5 form a cyclopropyl ring;  
 R<sup>3</sup> is hydrogen;  
 z is 2;  
 Q is substituted or unsubstituted phenyl or  
 naphthyl, or G;  
 10 R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are hydrogen; and  
 R<sup>7</sup> and R<sup>8</sup> are hydrogen.

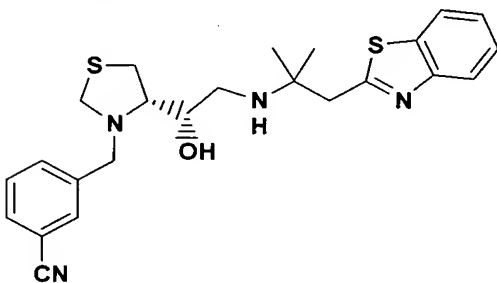
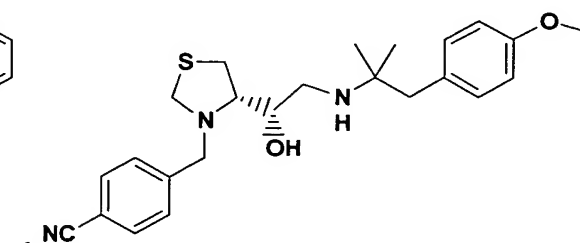
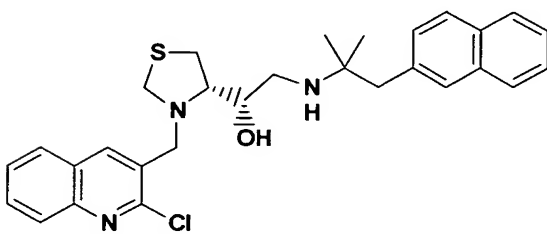
3. The compound as defined in claim 1 wherein the  
 compound is selected from:

15

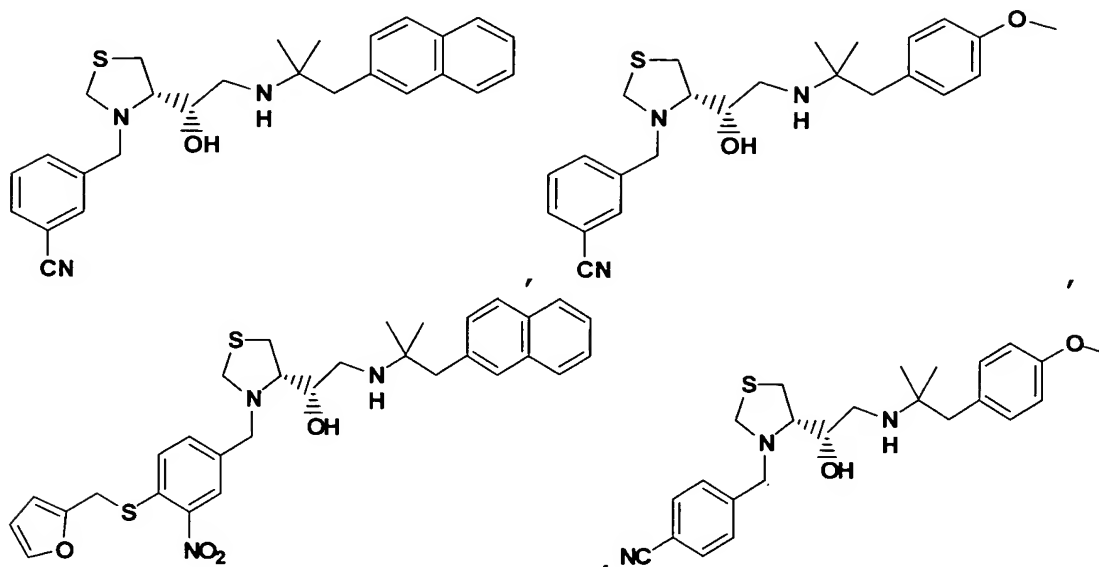




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4. The compound as defined in claim 1 wherein the compound is selected from:



5

5. A pharmaceutical composition comprising a compound as defined in Claim 1 and a pharmaceutically acceptable carrier therefor.

10

6. The pharmaceutical composition of claim 5 further comprising at least one additional therapeutic agent selected from other compounds of formula I, anti-osteoporosis agents, cholesterol/lipid lowering agents, growth promoting agents, progesterone receptor agonists, modulators of bone resorption, selective estrogen receptor modulators, selective androgen receptor modulators, anti-resorptive agents, hormone replacement therapies, vitamin D, vitamin D analogues, elemental calcium, calcium supplements, cathepsin K inhibitors, MMP inhibitors, vitronectin receptor antagonists, Src SH<sub>2</sub> antagonists, Src kinase inhibitors, vacuolar H<sup>+</sup>-ATPase inhibitors, PTH, PTH analogues and fragments,

osteoprotegrin, Tibolone, p38 inhibitors, prostanoids, PPAR gamma antagonists and isoflavinoids.

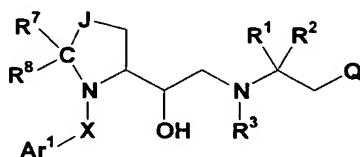
7. A method for treating or delaying the progression  
5 or onset of hypoparathyroidism, osteosarcoma, chondrosarcoma, periodontal disease, fracture healing, osteoarthritis, Paget's disease, osteopenia, glucocorticoid induced osteoporosis, osteomalacia, osteoporosis, metastatic bone disease or joint  
10 replacement, which comprises administering to a mammalian species in need of treatment a therapeutically effective amount of a compound as defined in Claim 1.

8. The method according to claim 7 further  
15 comprising administering, concurrently or sequentially, a therapeutically effective amount of at least one additional therapeutic agent selected from other compounds of formula I, anti-osteoporosis agents, cholesterol/lipid lowering agents, growth promoting  
20 agents, progesterone receptor agonists, modulators of bone resorption, selective estrogen receptor modulators, selective androgen receptor modulators, anti-resorptive agents, hormone replacement therapies, vitamin D, vitamin D analogues, elemental calcium, calcium supplements,  
25 cathepsin K inhibitors, MMP inhibitors, vitronectin receptor antagonists, Src SH<sub>2</sub> antagonists, Src kinase inhibitors, vacuolar H<sup>+</sup>-ATPase inhibitors, PTH, PTH analogues and fragments, osteoprotegrin, Tibolone, p38 inhibitors, prostanoids, PPAR gamma antagonists and  
30 isoflavinoids.

9. A method of enhancing bone formation in a mammalian species comprising administering a therapeutically effective amount of a compound as defined in Claim 1 to a patient in need thereof.

5

10. A pharmaceutical composition capable of modulating the calcium sensing receptor comprising a compound of formula I



10

I

wherein

Ar<sup>1</sup> is a substituted or unsubstituted aryl or substituted or unsubstituted heteroaryl;

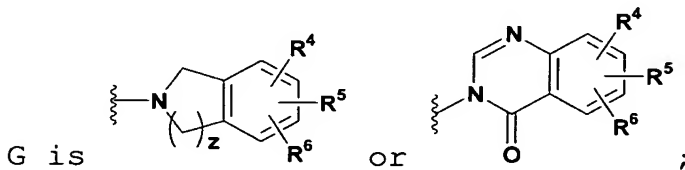
15 X is a linking group selected from alkylene, CO, alkyleneCO, OCO, alkyleneOCO, SO<sub>2</sub> and alkyleneSO<sub>2</sub>;

J is a linking group selected from S, SO and SO<sub>2</sub>;

R<sup>1</sup> and R<sup>2</sup> are each independently substituted or unsubstituted C<sub>1</sub>-C<sub>4</sub> alkyl, or R<sup>1</sup> can be cyclized with R<sup>2</sup> to  
20 form (-CH<sub>2</sub>-)<sub>m</sub> where m is an integer from 2 to 5;

R<sup>3</sup> is hydrogen(H) or alkyl;

Q is Ar<sup>1</sup> or G;



z is 1 or 2;

25 R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are each independently selected from hydrogen(H), halo, haloalkyl, alkyl, alkoxy, haloalkoxy, hydroxy, cyano, nitro, amino, alkylamino and alkylthio;

R<sup>7</sup> and R<sup>8</sup> are each independently selected from hydrogen(H), alkyl, aryl and heteroaryl;

including all prodrug esters, pharmaceutically acceptable salts or stereoisomers thereof.

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11. The pharmaceutical composition of claim 10 wherein said composition is a calcium sensing receptor antagonist.

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